



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,472	07/29/2003	Hideyuki Suzuki	4041K-000142	7304

27572 7590 07/06/2005

HARNESSE, DICKEY & PIERCE, P.L.C.
P.O. BOX 828
BLOOMFIELD HILLS, MI 48303

EXAMINER

TRAN, LEN

ART UNIT	PAPER NUMBER
----------	--------------

1725

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,472

Applicant(s)

SUZUKI ET AL.

Examiner

Len Tran

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/31/05 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3, and 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flemings et al (US '365).

Flemings et al disclose a mold comprising a fixed mold (32) and a moveable mold (30) (fixed and movable mold as shown in conventional die in figure 1, wherein movable mold is on top moving along the rods) defining a cavity (26), when both molds are closed together, to be filled with molten metal, wherein the fixed mold (32) is provided with heating means (34) and the moveable mold is provided with cooling means (col. 2, line 66 to col. 3, lines 1-2), both of which are controlled by temperature control means, wherein the temperature variations in one cycle of the fixed and moveable sections are capable of individually controlled. The temperature control means is capable of controlling from 300 to 700 degrees C in the fixed mold, and also capable of controlling from solidifying to 0 degrees C in the movable mold (col. 3, lines 2-15). The temperature control means are capable of repeating the sequence of the temperature control.

Flemings et al fail to teach the moveable mold only has cooling means and the fixed mold only has the heating means.

However, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to only have heaters in the fixed mold and coolers in the moveable mold, since Flemings et al teaches that the fixed mold is always at a higher temperature than the movable mold, since molten metal has to be kept at melting prior to be introduced into the mold cavity. Therefore, heaters on the movable mold are only for insulation

Art Unit: 1725

purposes and not for solidifying of the liquid metal. The coolers on the movable molds are for solidifying the cast product.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flemings et al (US '365), and further in view of Yamaguchi et al (US 6,460,596).

Both Flemings et al and Nakano disclose a fixed mold section is disposed on the injection side and the claimed invention above, but fail to teach ejector pins from the moveable section.

However, Yamaguchi et al disclose an ejector pin (15) on the moveable section (10) for the purpose of removing the product (cast article) upon solidification (col. 6, lines 6-9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide ejector pins on the moveable section as taught by Yamaguchi et al, in Flemings et al and Nakano in order to release the cast product after solidification.

Response to Arguments

5. Applicant's arguments filed 5/31/05 have been fully considered but they are not persuasive.

Art Unit: 1725

Applicant argues that there is nothing in Fleming that shows the die moving up or down. However, Examiner respectfully disagrees. Applicant further argues that figures 2a-c of Fleming shows a vertical parting line. Examiner again respectfully disagrees. The parting line is clearly horizontal, since column 2, line 55-57, Fleming discloses an upper section (30) and a lower section (32). In addition, Fleming's apparatus is the improvement of the prior art in figure 1, which clearly shows moving up and down of the upper mold. Hence, the die casting apparatus has to have a horizontal parting line and *not a vertical* parting line as understood by applicant. Therefore, claims 1-3 are 5-12 remain rejected.

Inquiry

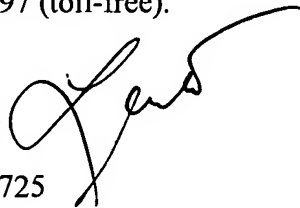
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (571) 272-1184. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1725

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Len Tran
Examiner
Art Unit 1725



July 3, 2005